

What is claimed is:

1. A method for treating rheumatoid arthritis or other forms of inflammatory arthritis which comprises administering to a subject an amount of an agent effective to inhibit the activation of the CXCR4 receptor by SDF-1.
2. The method of claim 1, wherein the agent is oligopeptide or a polypeptide.
3. The method of claim 1, wherein the agent is an antibody or a portion of an antibody.
4. The method of claim 3, wherein the antibody is a human, chimeric or humanized antibody or portion thereof.
5. The method of claim 1, wherein the agent is a nonpeptidyl agent.
6. The method of claim 6, wherein the nonpeptidyl agent is a bicyclam such as AMD3100.
7. A composition for treating rheumatoid arthritis comprising an effective amount of an agent capable of inhibiting the activation of the CXCR4 receptor by SDF-1 and a pharmaceutically acceptable carrier.
8. The composition of claim 7, wherein the agent is oligopeptide or a polypeptide.
9. The composition of claim 7, wherein the agent is an antibody or a portion of an antibody.
10. The composition of claim 9, wherein the antibody is a human chimeric, or humanized antibody.

11. The composition of claim 7, wherein the agent is a nonpeptidyl agent.

5 12. The composition of claim 11, wherein the nonpeptidyl agent is a bicyclam such as AMD3100.

10 13. A method for determining whether an agent is capable of inhibiting the activation of a CXCR4 receptor by SDF-1 comprising:

15 (a) contacting the cells expressing CXCR4 receptor in the presence of SDF-1 with the agent under condition permitting activation of the CXCR4 by SDF-1 if the agent is absent; and

20 (b) determining whether the amount of activation of the CXCR4 receptor by SDF-1 is decreased in the presence of the agent relative to the amount of activators in its absence, such a decrease in the amount of activation indicating that the agent is capable of inhibiting the activation of the CXCR4 receptor by SDF-1.

25 14. The method of claim 13, wherein the cells are lymphocytes or monocytes.

30 15. The method of claim 13, wherein the cells are bacterial, fungal, plant, or animal cells.

16. An agent identified by the method of claim 13.

35 17. A composition comprising an amount of an agent identified by the method of claim 13 effective to inhibit the activation of the CXCR4 receptor by SDF-1 and a suitable carrier.

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